

# Work Order ID 75067

October-17-11 10:47:05 AM

ASAP

\*75067\*

Page 1

Item ID: D4131-9 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Label Plate  
 Start Date: 17/10/2011 Start Qty: 20.00 \*20\* Cust Item ID:  
 Required Date: 28/10/2011 Req'd Qty: 20.00 \*20\* Customer:  
 Reference:

Approvals: Process Plan: M.L.J Date: 11/10/17 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4131	B								
100		0.00							
*100*									
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg								
304 .035	Dwg Rev: <u>B</u>								
	Prog Rev: <u>B</u>								
	2-Deburr if necessary								
	<u>B11-10-29</u>								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
*110*									
QC	Memo	0.00							
Quality Control									

B11-10-18

36

B11-10-18

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 75067**

October-17-11 10:47:05 AM

**\*75067\***

Page 2

Item ID: D4131-9 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Label Plate  
Start Date: 17/10/2011 Start Qty: 20.00 **\*20\*** Cust Item ID:  
Required Date: 28/10/2011 Req'd Qty: 20.00 **\*20\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC8- Inspect parts - second check	0.00							
<b>*120*</b>									
QC	Memo	0.00							
Quality Control									
130	Identify as per dwg & Stock Location: <u>STGA</u>	0.00							
<b>*130*</b>									
Packaging	Memo	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
<b>*140*</b>									
QC	Memo	0.00							
Quality Control									

u/10/31/11  
mf  
11-10-31

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

October-17-11 10:47:10 AM

Page 1

Work Order ID: 75067

**\*75067\***

Parent Item: D4131-9

**\*D4131-9\***

Parent Item Name: Label Plate

Start Date: 17/10/2011

Required Date: 28/10/2011

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP REV:A 11.09.26 NEW ISSUE DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S22GA		Purchased	No			100	sf	124.3600	0.0169	0.355789	1		

**\*M304S22GA\***

304/316 .032 Sheet

**\*\***

B1071-18

Location

Loc Qty

Loc Code

020

3.3

109057

3.3

MAT020

121.06

117379

30.06

118271

85

118400

6

118271

(36)

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

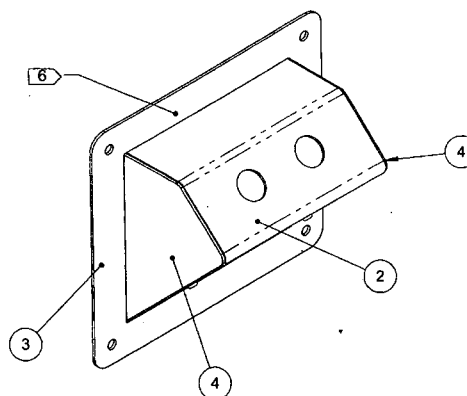
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



ITEM	QTY -041	PART NUMBER	DESCRIPTION
1	X	D4131-041	MANIFOLD ASSEMBLY
2	1	D4131-045	BASE ASSEMBLY
3	1	D4131-1	FRONT PLATE
4	2	D4131-5	SIDE PLATE



**D4131-041 MANIFOLD ASSEMBLY**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 75067

*R11-10-17*

**RELEASED**  
2011-09-21  
*WMD*

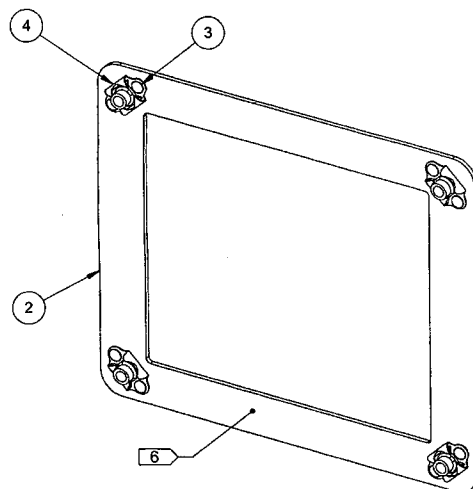
**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 0.66 lbs

B	D4131-045 WAS D4131-3 (ZN D3-1); ADD 4131-045 (ZN B4-3); ADD Ø0.098 (ZN B4-7); ADD 4131-9 (ZN B5-10)	RF	11.07.27
A	NEW ISSUE	RF	10.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	<i>14</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>15</i>	D4131	SHEET 1 OF 10
APPROVED	<i>14</i>	TITLE	SCALE
DE APPR.	<i>14</i>	MANIFOLD ASSEMBLY	NTS
DATE	11.07.27	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	



ITEM	QTY -043	PART NUMBER	DESCRIPTION
1	X	D4131-043	DOUBLER ASSEMBLY
2	1	D4131-7	DOUBLER
3	8	MS20426AD3-3	RIVET
4	4	MS21069L3	NUT PLATE



**D4131-043 DOUBLER ASSEMBLY**

**NOTES:**

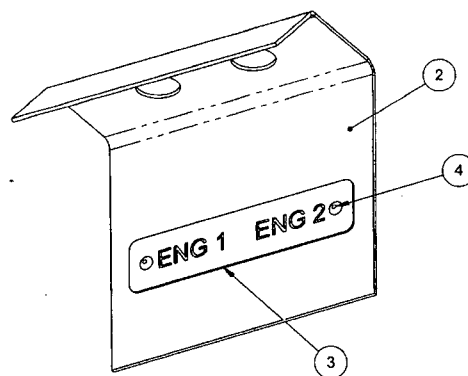
- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 0.07 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4131	SHEET 2 OF 10
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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2011-09-21  
*[Signature]*

75067

ITEM	QTY -045	PART NUMBER	DESCRIPTION
1	X	D4131-045	BASE ASSEMBLY
2	1	D4131-3	BASE
3	1	D4131-9	LABEL PLATE
4	2	MS20615-3M3	RIVET



**D4131-045 BASE ASSEMBLY**

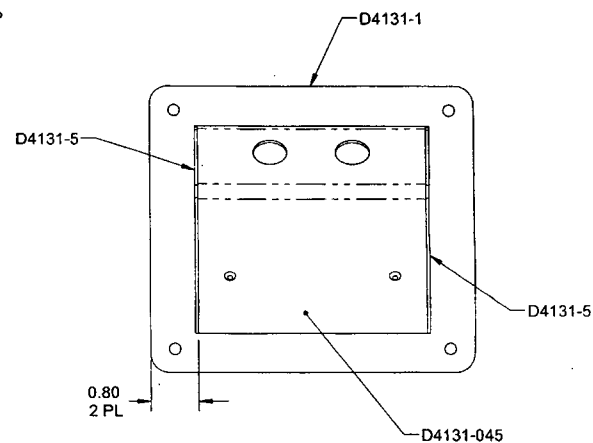
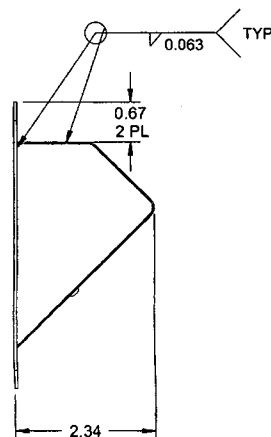


**RELEASED**  
2011-09-21

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.35 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4131	SHEET 3 OF 10
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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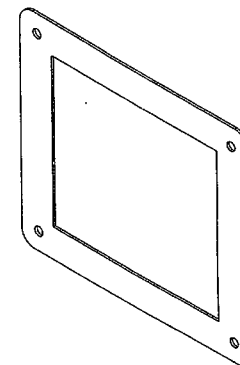
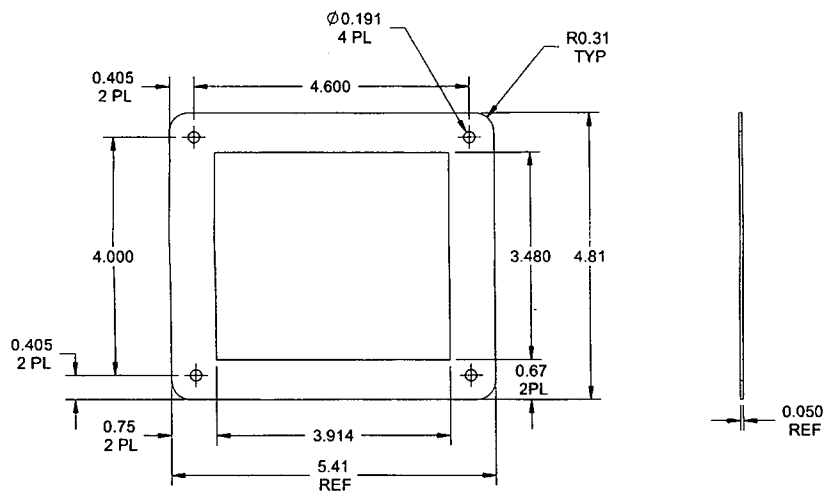
# **D4131-041 MANIFOLD ASSEMBLY**

## **NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 0.66 lbs
- 8) WELD PER DART QSI 004

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2011-09-21  
AM

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	MD	DRAWING NO.	REV. B
MFG. APPR.	MD	D4131	SHEET 4 OF 10
APPROVED	MD	TITLE	SCALE
DE APPR.	MD	MANIFOLD ASSEMBLY	NTS
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75047

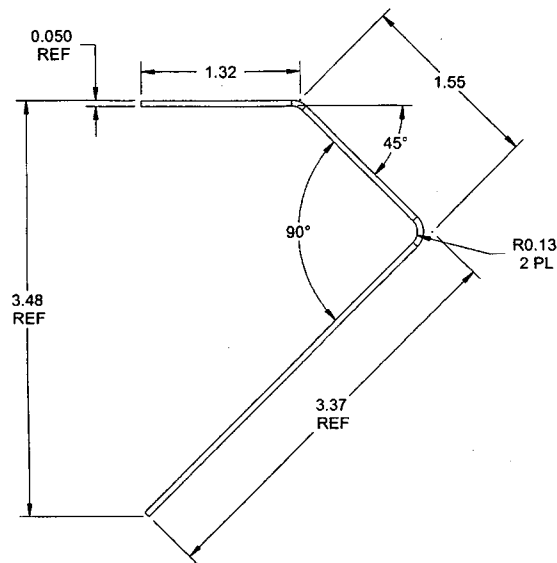
**D4131-1 FRONT PLATE**

**NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL ANNEALED 2B FINISH 0.050 (18 GAUGE) SHEET  
PER MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240  
PER DART SPEC. M304S18GA
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.18 lbs

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2011-09-21  
JW

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4131	SHEET 5 OF 10
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	MANIFOLD ASSEMBLY	NTS
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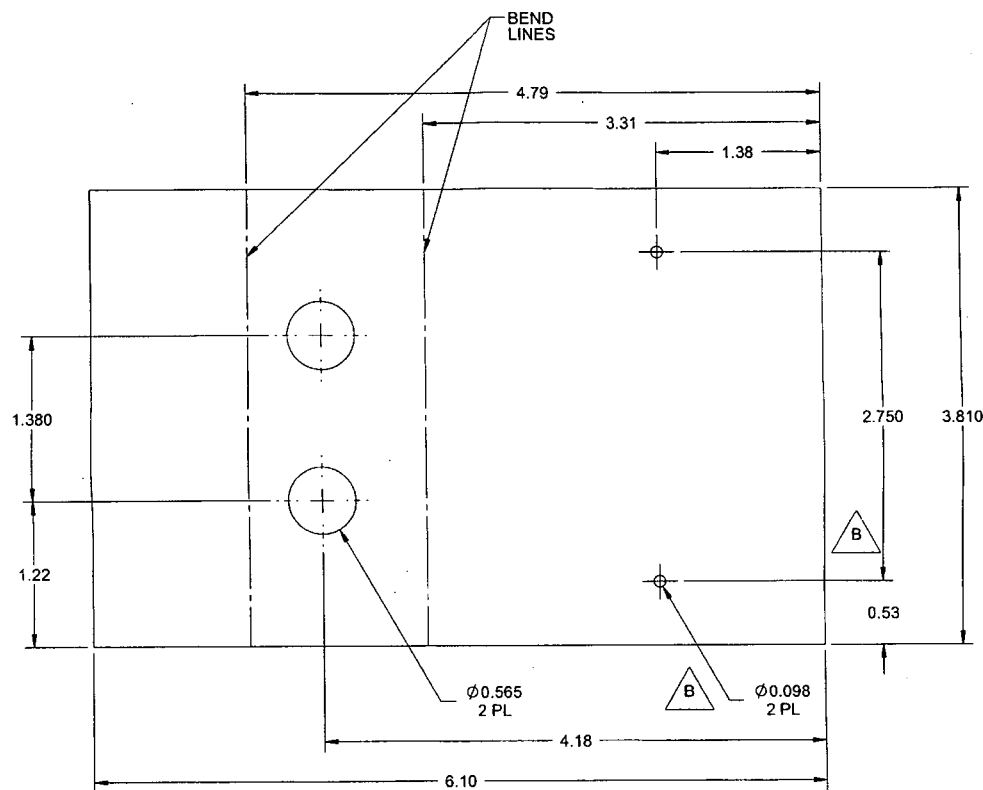
**D4131-3 BASE**  
MAKE FROM D4131-3F FLAT PATTERN

**RELEASED**  
2011-09-21

**NOTES:**

- 1) MATERIAL: MAKE FROM D4131-3F FLAT PATTERN
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.33 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	<b>D4131</b>	SHEET 6 OF 10
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>MANIFOLD ASSEMBLY</b>	NTS
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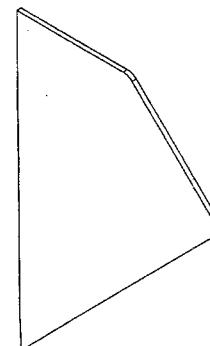
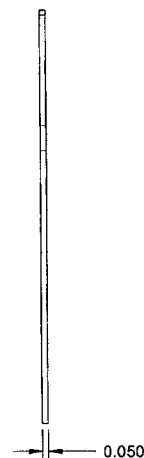
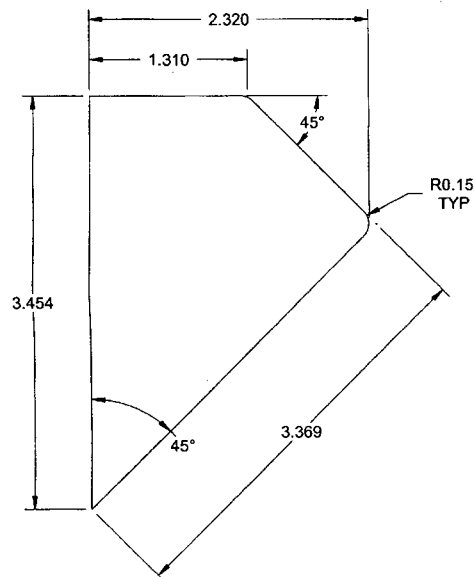
**D4131-3F FLAT PATTERN**

**NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL ANNEALED 2B FINISH 0.050 (18 GAUGE) SHEET  
PER MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240  
PER DART SPEC. M304S18GA
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.33 lbs

**RELEASED**  
2011-09-21

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4131	SHEET 7 OF 10
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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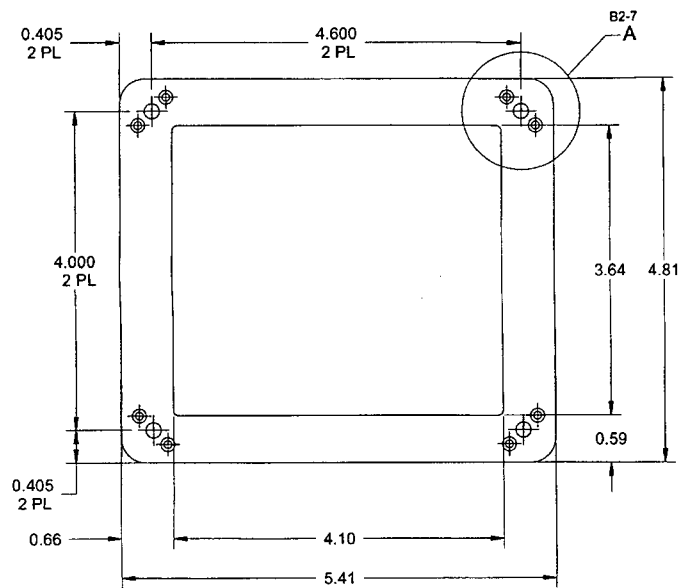
# **D4131-5 SIDE PLATE**

**RELEASED**  
R 2011-09-21 D  
AND

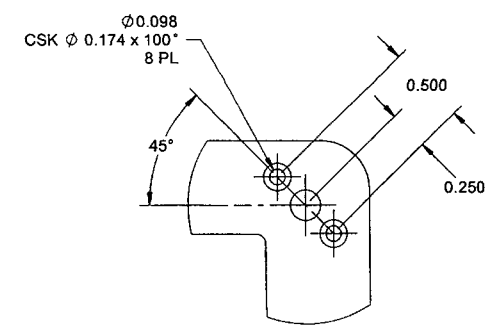
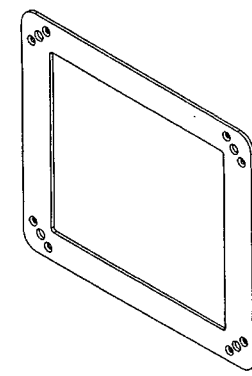
## **NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL ANNEALED 2B FINISH 0.050 (18 GAUGE) SHEET  
PER MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240  
PER DART SPEC. M304S18GA
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.07 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b> KENT, WA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	<b>D4131</b>	SHEET 8 OF 10
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>MANIFOLD ASSEMBLY</b>	NTS
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75067



**DETAIL A** D5-7  
TYPICAL

**D4131-7 PLATE**

**RELEASED**  
2011-09-21

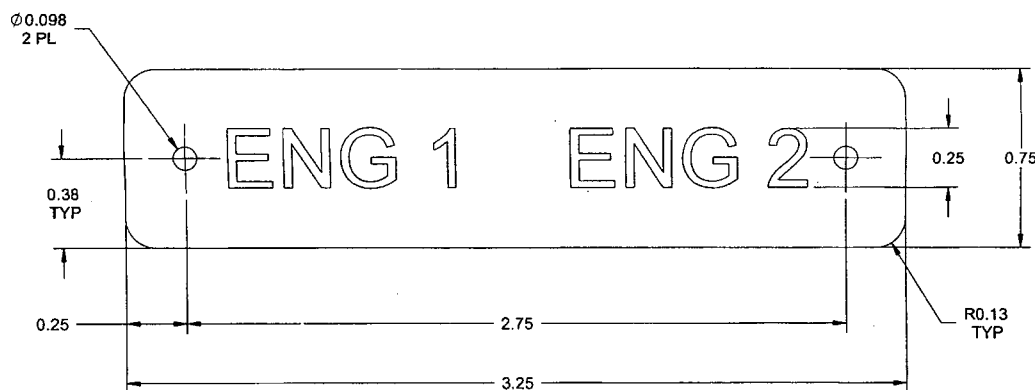
- NOTES:**
- 1) MATERIAL: 6061-T6/T62 ALUMINUM SHEET 0.063 THICK  
PER QQ-A-250/11 OR AMS-QQ-A-250/11  
OR AMS 4025 OR AMS4027  
OR ASTM B209  
PER DART SPEC. M6061T6S0.063
  - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.07 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4131	SHEET 9 OF 10
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	MANIFOLD ASSEMBLY	NTS
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ENG 1 ENG 2

75067



D4131-9 LABEL PLATE



RELEASED  
2011-09-21  
NMP

NOTES:

1) MATERIAL: AISI 304/316 STAINLESS STEEL ANNEALED 2B FINISH 0.030 (22 GAUGE) SHEET  
PER MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240  
PER DART SPEC. M304S22GA

2) FINISH: N/A  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) UNITS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
6) IDENTIFICATION: NONE  
7) WEIGHT: 0.02 lbs

DESIGN	RF	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4131	SHEET 10 OF 10
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	MANIFOLD ASSEMBLY	NTS
DATE	11.07.27	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	